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Description

Solution

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1680. Concatenation of Consecutive Binary Numbers

Medium

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Given an integer  $n$ , return the **decimal value** of the binary string formed by concatenating the binary representations of  $1$  to  $n$  in order, **modulo**  $10^9 + 7$ .

**Example 1:**

**Input:**  $n = 1$   
**Output:** 1  
**Explanation:** "1" in binary corresponds to the decimal value 1.

**Example 2:**

**Input:**  $n = 3$   
**Output:** 27  
**Explanation:** In binary, 1, 2, and 3 corresponds to "1", "10", and "11". After concatenating them, we have "11011", which corresponds to the decimal value 27.

**Example 3:**

**Input:**  $n = 12$   
**Output:** 505379714  
**Explanation:** The concatenation results in "1101110010111011110001001101010111100". The decimal value of that is 118505380540. After modulo  $10^9 + 7$ , the result is 505379714.

**Constraints:**

- $1 \leq n \leq 10^5$

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```
class Solution {  
    public int concatenatedBinary(int n) {  
    }  
}
```

⌵ Problems

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Console

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